

1,032,185

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SIGNALING DEVICE FOR AUTOMOBILES.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EDWARD T. BURROWES, a citizen of the United States, residing at Portland, in the county of Cumberland and State of Maine, have invented certain new and useful Improvements in Signaling Devices for Automobiles, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to signaling horns of that general type usually employed on automobiles, and has for its object the provision of a horn having means for blowing the same, in combination with instrumentalities rendering the blowing means inactive or the horn unresponsive in sound to said blowing means at the will of the user.

It has become a matter of common knowledge that in automobile service, although the horn is a very desirable signal because of its peculiar characteristics as an alarm and the facility with which it may be operated, there is, however, the serious disadvantage incident to its use that children or the by-stander will playfully manipulate the horn when the vehicle is at rest, or unguarded, thus creating a substantial and obnoxious nuisance.

My invention has for its aim the overcoming of the objection or disadvantage noted, and in carrying the invention into practical effect I conveniently interpose in one embodiment thereof, at a point intermediate the blower and the horn, an adjustable device adapted in one position to permit the horn to be actuated by the blower, and in another position to prevent actuation of the horn notwithstanding the manipulation of the blower.

Although the invention is capable of being embodied in many forms and devices, I have, for the sake of imparting a clear understanding of the same, herein disclosed embodiments thereof, each of which comprises a horn, a blower, which in this instance is a rubber bulb, as shown, a flexible tube connection between the bulb and the horn, and a valve positioned in said tube adapted in one of its positions to permit the air to pass from the bulb through the tube and horn to blow the latter, and in another of its positions to prevent the passage of sufficient air from the bulb and tube to blow the horn.

Details in the construction and arrangement of parts will be apparent from the ac-

companying drawings forming part hereof, wherein said embodiments of the invention are illustrated, when considered in connection with the specific description hereinafter contained.

Referring more specifically to the drawings, Figure 1 is an elevation of a horn provided with the present improvements, Fig. 2 is a sectional view through the valve, long tud nall thereof, Figs. 3 and 4 are transverse sectional views on the lines $x-x$ and $y-y$ of Fig. 2, Figs. 5 and 6 are views similar to Figs. 3 and 4 of a structure modified somewhat with reference to the form illustrated in the first mentioned figures. Fig. 7 illustrates a modified form of cut off mechanism, the same being positioned directly at the base of the bulb, this being shown in longitudinal section, and Fig. 8 is a similar view showing the same in cross section.

Referring more specifically to the figures of the drawings, wherein like reference letters designate similar parts in the several views, A represents a horn which is of any usual or preferred type, the details of which are unimportant so far as the present invention is concerned, and therefore need not be illustrated herein, B the air bulb adapted to be manually compressed to blow the horn, and C the flexible air conducting tube connecting the bulb with the mouth of the horn. These elements are those commonly employed, although they may of course be of any other or improved type desired, it being noted that the flexible tubing, conveniently of rubber, is wound with a protecting spiral of brass wire D.

In the tubing C at a point intermediate the horn and the bulb B, or equivalent blower, I introduce a valve casing E having branches or nipples e fitting the ends of the tube sections. Adapted to rotate within the casing E is a rotary valve F provided with a transverse port f , the valve being supported upon a stem G passing through aligned apertures g in the opposite ends of the casing, said stem at one end being provided with a handle or finger piece H for operating the same and at its opposite end with a nut J restricting the outward pull of the stem for a purpose as will presently appear. Interposed between the nut J and the adjacent end of the casing is a spring K normally exerting an expanding pressure against the nut J to draw the stem in that

direction whereby to seat a locking lug or pin L on the handle end of the stem in a notch or groove Z provided therefor in the adjacent end of the casing. To permit longitudinal movement of the stem G through the rotary valve F while maintaining the operating connection therebetween, I form the stem of angular cross section to slide within a complementary bore of the valve.

- 10 As represented at M, a restricted air passage is at all times afforded around the valve, the valve fitting its seat in a relatively loose manner for that purpose.

- 15 The foregoing being the structural characteristics of the device, the operation thereof may now be followed.

- Normally, when the horn is in use, the valve occupies the position with its port in registration with the tube sections C so that the manipulation of the bulb causing the rush of air through the tube and horn will blow the latter. The valve is held in this position through the medium of the spring K which retains the stem G and valve 25 against rotation by means of the interfitting or interlocking of the lug L on the stem with the recess or notch Z of the casing. When it is desired to put the horn out of commission, as when the occupant of a vehicle leaves the same, a draw upon the stem of the valve in the direction of the arrow will release the lug L from the notch Z and the valve may be turned to bring the port J at right angles to the pipe sections C and close or interrupt the continuous passage therethrough. The valve may also be locked in this position by engagement of the lug L with a second notch Z'.

- It is to prevent puncture or damage of the bulb incident to vigorous compression of the same when the valve is closed that the small air passages M are provided, it being understood that such passages will permit a slow exhaust of air sufficient to relieve the pressure on the bulb, but insufficient in volume to blow the horn.

It is apparent that any type of handle may be employed in connection with the valve.

- 50 In the form of device illustrated in Figs. 5 and 6 of the drawings, the structure is in general respects the same as that illustrated in the preceding views, the casing E' in this form having annular flanges f' f'' to form a notch as at f² for the reception of the locking lug h on the handle or finger piece H', the flange f being threaded for the accommodation of a cap J'. In this instance the valve F' is formed integral with the finger piece H', the valve being devoid of any stem, but rather mounted to rotate in the flanges or extensions f' f'' as is obvious. A spring K' within the casing interposed between a shoulder m of the valve 60 and the adjacent wall of the casing, serves

to force the valve inwardly relative to the casing to retain the feather or lug h in engagement with the notch f² or a second notch f³ to lock the valve in either of its positions. The notches may have beveled ends, as will be obvious to permit the lug or feather to ride upwardly out of the same incident to a strong turning movement, or said ends may be square to compel an initial lifting or drawing movement of the valve against the pressure of the spring K' prior to the subsequent turning of the valve.

In the last described form it will be noted that the slight space partly occupied by the spring affords the restricted passage for air around the valve in all of its positions.

It is to be understood that where I have herein, or in the appended claims, referred to the element of the horn, the word is intended in a generic sense, contemplating a horn *per se*, or equivalent sound signaling device.

In the construction shown in Figs. 7 and 8, I have depicted an arrangement wherein by turning the bulb or the bulb stem, suitable registering apertures are brought into registration or thrown out of registration, so as to permit the air to move from the bulb to the tube or to cut off the air in whole or in part. The reference letter A' represents the bulb, B' the tube. The stem of the bulb carries a metallic nipple C' within which is placed a disk D' having a marginal space d' at its edge, which is at all times open. The disk is provided with conveniently two air passages e' and is fixed against rotation independent of its carrying nipple. The cooperating or associated nipple E' carried by the end of the flexible tube is joined to the nipple D' by a suitable coupling joint d'', conveniently in the form of engaging or interfitting crimps, so that one member can be turned on the other. In the upper part of the tube nipple is a disk F' of substantially the same construction as the plate in the bulb nipple and the same is arranged to fit closely against the said latter plate. By turning the bulb and its nipple, the openings in the plate are made to register, while a movement in the opposite direction would throw the openings out of registration, thus closing the communication between the bulb and the tube. The space between the plates and the nipple walls permits a slight movement of air from the bulb to the tube, as in the other forms. In this latter modification, any convenient locking means can be employed, wherein the lower margin of the bulb nipple is reinforced by split band H', having outstanding ears k, one of which is free to receive a threaded bolt h² having a squared end h³. This squared end is adapted to fit a key carried by the user or operator. The

tube is split at a point between the ears of the ring, so that by turning the screw bolts, the lower part of the nipple will be tightly clamped on the tube nipple, thus preventing rotation. This form can be modified and other means can be employed for locking the parts against rotation.

I claim:—

1. A device of the character described comprising a horn for motor vehicles and the like, manually operable means to create a blast for blowing the same, a pipe connection between said means and horn, and means in the pipe connection adjacent to said manually operable means for rendering the horn unresponsive to the blowing means and for releasing the pressure on the interior of said manually operable means while the horn remains unresponsive.

2. A device of the character described comprising a horn for motor vehicles and the like, operable means for creating a blast to blow the same, and a valved device interposed between the horn and the blowing means provided with an enlarged passage adapted in one position of the valve to permit the horn to be actuated by the blower and in another position to prevent said actuation, said valved device also having a relatively restricted passage to relieve the pressure of the blowing means when the enlarged passage is closed.

3. A horn, and means for blowing the same, in combination with a valve interposed between the horn and blower adapted in one position to permit the horn to be actuated by the blower, and in another position to prevent said actuation, the valve structure having a relatively large blow opening and a relatively restricted relief passage discharging from the blower when the valve is in position to prevent actuation of the horn, substantially as described.

4. A horn, and means for blowing the same having instrumentalities for preventing actuation of the horn notwithstanding

the actuation of the blower, said instrumentalities embracing a relief passage of restricted area relative to the blow opening discharging from the blower when the horn is not actuated, substantially as described.

5. A horn and a blower therefor, in combination with a valve interposed between the blower and the horn adapted in one position to prevent actuation of the horn and in another position to permit actuation thereof, said valve being provided with means for locking the same in adjusted position, including a cooperating lug and notch, and a spring for retaining the lug in engagement with the notch, said spring being arranged within the casing between a part of the valve and the wall of the casing, the space in part occupied by the spring affording a constant air passage through the valve, substantially as described.

6. A signaling device for automobiles comprising a horn having a compressible bulb for blowing the same, and means preventing the blowing influence of the bulb on the horn while permitting dissipation of the air therethrough when operated by unauthorized persons.

7. A signaling device for automobiles comprising a horn having a compressible bulb for creating a blast, in combination with a valve, means for operating the valve independently of the blower, said valve being interposed between the horn and blower so that in one position the horn may be actuated by the blower and in another position sound will be prevented notwithstanding an attempted operation of the blower to create the blast, the device having an outlet to relieve operating pressure within the bulb when sound is prevented.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD T. BURROWES.

Witnesses:

L. G. WEYMOUTH,
PHILIP H. HOUSTON.